

97-84021-10

U.S. Interstate Commerce
Commission

Explanatory text...San
Pedro, Los Angeles...

[Philadelphia, Pa.]

[1916]

97-84021-10

MASTER NEGATIVE #

COLUMBIA UNIVERSITY LIBRARIES
PRESERVATION DIVISION

BIBLIOGRAPHIC MICROFORM TARGET

ORIGINAL MATERIAL AS FILMED - EXISTING BIBLIOGRAPHIC RECORD

308	
Z	
Box 62	U. S. Interstate commerce commission. Division of valuation.
	... Explanatory text accompanying the engineering report giving the cost of reproduction new and cost of reproduction less depreciation of certain accounts as shown for the San Pedro, Los Angeles & Salt Lake railroad. Date of valuation June 30, 1914. San Francisco, Cal., June 1, 1916. Philadelphia, Presidents' conference committee, 1916.
	cover title, 3-30 p. incl. fold. tab. 23 ^{cm} .
	At head of title: Interstate commerce commission. Division of valuation—Pacific district.
	"Printed by general secretary for committee's use, but not published."
	1. Railroads—U. S.—Valuation. 2. San Pedro, Los Angeles and Salt Lake railroad.
	Title from Bureau of Railway Economics. Printed by L. C.

RESTRICTIONS ON USE: Reproductions may not be made without permission from Columbia University Libraries.

TECHNICAL MICROFORM DATA

FILM SIZE: 35mmREDUCTION RATIO: 11:1IMAGE PLACEMENT: IA (1A) IB IIBDATE FILMED: 2-10-97INITIALS: FBTRACKING # : MSH 21465

FILMED BY PRESERVATION RESOURCES, BETHLEHEM, PA.

Printed by General Secretary for
Committee's Use, But Not Published
7 13 1916

308

Z

Box 2

**SAN PEDRO, LOS ANGELES & SALT LAKE
RAILROAD**

**EXPLANATORY TEXT ACCOMPANYING THE
ENGINEERING REPORT**

GIVING THE

COST OF REPRODUCTION NEW

AND

COST OF REPRODUCTION LESS DEPRECIATION

AS OF JUNE 30, 1914

ENGINEERING

OFFICE OF
GENERAL SECRETARY
PRESIDENTS' CONFERENCE COMMITTEE
PHILADELPHIA, PA.

INTERSTATE COMMERCE COMMISSION

DIVISION OF VALUATION—PACIFIC DISTRICT

EXPLANATORY TEXT
ACCOMPANYING THE ENGINEERING REPORT

GIVING THE

COST OF REPRODUCTION NEW

AND

COST OF REPRODUCTION LESS DEPRECIATION
OF CERTAIN ACCOUNTS AS SHOWN

FOR THE

SAN PEDRO, LOS ANGELES & SALT LAKE
RAILROAD

DATE OF VALUATION JUNE 30, 1914

SAN FRANCISCO, CAL., JUNE 1, 1916

INDEX.

	PAGES
Preface.....	3
Principal physical characteristics.....	5-6
Track Mileage.....	7-10
Description of country traversed.....	11
Service operated.....	11-12
History of physical property owned:	
(a) Description of original construction.....	12-13
(b) Reconstruction and betterments.....	15
Construction program:	
(a) Division of carrier's lines into valuation sections.....	15
(b) Location of construction offices.....	16
(c) Local distribution methods.....	16-17
(d) Construction methods.....	17-19
(e) Period and order of construction.....	19
(f) Labor markets available.....	20
Statement of methods followed:	
(a) Roadway branch.....	20-22
(b) Structural branch.....	22
(c) Mechanical branch.....	22-23
(d) Telegraph and telephone branch.....	23
(e) Signal branch.....	24
Statement of methods and principles followed in computing depreciation.....	24
Abandoned property.....	25
Additions and betterments.....	25-28
Determination of unit prices.....	29
Allowances for overhead expenses.....	29-30

PREFACE.

The San Pedro, Los Angeles & Salt Lake Railroad is a single track standard gauge steam railroad, and extends from East San Pedro, Cal., a harbor on the Pacific Ocean, northeasterly, via Los Angeles, Cal., and Las Vegas, Nevada, to Salt Lake City, Utah, a distance of 811 miles, with numerous branch lines aggregating 278 miles. The main and branch lines serve a population of approximately 900,000 (1910 census).

The practical field work of inventory was begun by roadway parties in February, 1914, and the field work of all branches was completed in January, 1915.

The Cost-of-Reproduction-New, as the term is used in this text, is considered as being the amount which would be required to produce the property as it existed on June 30, 1914 (the date of valuation), of new materials, in the form in which they were originally acquired by the present owner, to serve the purposes for which they were then used, and under conditions which are average, and which might reasonably be expected to obtain were the property to be again produced at said date.

Depreciation, as applied to the Cost-of-Reproduction-New, represents loss in value due to wear and tear, or other usages, in the service in which the property has been employed, or to other causes.

Tentative instructions (not subsequently materially modified) were in effect regulating the field procedure and methods of all branches; the work has been thoroughly and conscientiously done, and it is believed that the results herewith submitted reflect, with a reasonable degree of accuracy, the extent and cost of reproduction new and cost of reproduction less depreciation of the company's property as listed.

In 13th, June 22, 1917

EXPLANATORY TEXT.

PRINCIPAL PHYSICAL CHARACTERISTICS.

In main line operation the carrier uses, under trackage rights, 101 miles of the Atchison, Topeka & Santa Fe Railway between Riverside, Cal., and Daggett, Cal.

The carrier's standard roadbed widths are 20 feet in excavation and 18 feet in embankments. The ruling grade on the main line is 2.2 per cent.; on branch lines 3.5 per cent. The maximum curvature on the main line is 10 degrees. Main line track is laid generally with 75-pound steel per yard, except on Valuation Section 6, between Los Angeles and Riverside, of which 33 miles is laid with 90-pound steel per yard. Branch lines, side tracks and yard tracks are laid with steel weighing from 52 to 60 pounds per yard.

Standard track ties are 7" x 8" x 8', redwood being used on the west end and Oregon fir on the east end. There has been a liberal use made of a good type of tie plates, rail braces and anti-creeper. The general width of right of way is 200 feet. Only about 30 per cent. of the line is fenced.

There are 18 tunnels on the main line, aggregating a length of about 9200 feet.

Generally speaking, a good class of permanent construction has been used. Passenger depots of the Mission type are numerous. There are creditable concrete shop buildings at Las Vegas, Nevada.

Other important structures are an 188-foot roller-lift bridge at Long Beach, Cal., and an 1000-foot concrete viaduct between Riverside and Los Angeles, Cal.

The carrier has a good class of equipment, well maintained, consisting of some 169 locomotives, 119 passenger cars and 3356 freight and work cars. In addition to its own equipment it pays rental to private car lines to the extent of about \$77,000 per year.

The cost of the carrier's motive power and equipment approximates \$7000 per mile of main and branch lines operated.

The carrier uses no automatic block-signal system, except in and near Los Angeles, Cal. Main line trains are handled by train order system, with hand-operated semaphores at telegraph stations. A contract recently let will soon fully equip with a modern automatic signal system that portion of the line between Los Angeles and Riverside, Cal.

The telegraph line is of a good class of construction, generally of 25-foot cedar poles with cross-arms, carrying from seven to eight wires. Between Riverside and Daggett the carrier owns from three to four wires on a pole line along the Atchison, Topeka & Santa Fe Railway, paying annual rental for the use of pole line. On branch lines there is generally but one wire.

All pole lines, and certain wires, are owned jointly with the Western Union Telegraph Company. All telegraph equipment is the property of the latter company.

The following three tables show the location, extent and ownership of main line and other tracks in which the carrier is interested:

STATEMENT OF TRACK MILEAGE
SAN PEDRO, LOS ANGELES & SALT LAKE RAILROAD CO.

Note: There is no second track mileage on this carrier.

1. Owned and exclusively used by carrier for carrier purposes:

Valuation Section	Description	Main Track, Miles 1st	Other Tracks, Miles	Total Miles
Cal.....	1 East San Pedro Terminal.....	3.595	15.347	18.942
".....	2 San Pedro Branch.....	20.360	6.125	26.485
".....	3 Los Angeles Terminal.....	9.667	28.010	37.677
".....	4 Pasadena Branch.....	10.475	1.849	12.324
".....	5 Glendale Branch.....	7.105	1.096	8.204
".....	6 Los Angeles to Riverside.....	54.750	19.157	73.907
".....	7 Crestmore & Bly Quarry Spur.....	8.347	2.806	11.153
".....	8 Daggett to Calada.....	128.441	31.235	159.676
Nev.....	9 Calada to Las Vegas.....	46.104	7.259	53.363
".....	10 Las Vegas to Caliente.....	125.233	24.700	149.933
".....	11 St. Thomas Branch.....	21.601	2.592	24.193
".....	12 Caliente to Uvada.....	41.757	15.709	57.466
".....	13 Pioche Branch.....	32.274	2.511	34.785
Utah.....	14 Uvada to Milford.....	75.695	10.636	86.331
".....	15 Frisco Branch.....	22.864	5.263	28.127
".....	16 Milford to Lyndyl.....	88.618	19.543	108.161
".....	17 Lyndyl to Salt Lake City via Tintic.....	119.565	30.230	149.795
".....	18 Lyndyl to Sandy via Provo.....	120.003	21.357	141.360
".....	19 Fairfield Branch.....	43.509	12.372	55.881
".....	20 Tintic Branches.....	8.495	4.674	13.169
1: Total owned and exclusively used.....		988.458	262.474	1250.932
Total owned and jointly used with other carriers (4).....		0.190	9.232	9.422
Amount of jointly owned and jointly used track chargeable to S. P., L. A. & S. L. R. R. Co. (5).....		0.542	2.515	3.057
Total track mileage inventoried to S. P., L. A. & S. L. R. R. Co.....		989.190	274.221	1263.411

2. Owned but not used by any one for carrier purposes:
(This table does not include abandoned grade from which rails have been removed.)

Valuation Section	Description	Main Track, Miles Ist	Other Tracks, Miles	Total Miles
Cal..... 4	Pasadena Branch.....	1.132	0.232	1.364
"..... 7	Bly Quarry & Crestmore Branch.....		0.243	0.243
"..... 8	Daguerre to Calaha.....		0.303	0.303
Nev..... 10	Las Vegas to Caliente.....		0.249	0.249
"..... 12	Caliente to Nevada.....		0.380	0.380
Utah..... 14	Uvada to Milford.....		0.961	0.961
"..... 16	Milford to Lyndall.....		0.061	0.061
"..... 17	Lyndall to Salt Lake City via Tintie.....		0.186	0.186
"..... 18	Lyndall to Sandy via Provo.....		0.222	0.222
"..... 19	Parfield Branch.....		0.515	0.515
"..... 20	Tintie Branches.....	3.027	0.185	3.212
	Totals.....	4.159	3.517	7.676

STATEMENT OF TRACK MILEAGE
SAN PEDRO, LOS ANGELES & SALT LAKE RAILROAD COMPANY

NOTE.—There is no second track mileage on this carrier.

3. Owned and leased to another carrier or carriers—None.

Valuation Section	Description	Main Track, Miles	Other Tracks, Miles	Carrier or Carriers jointly used with	Abstract of Agreement
Cal.	Transfer Track No. 6 at Seaside	0.115	0.115	Pacific Electric Ry.	No Agreement.
2	" " at Mead	0.673	0.673	Southern Pacific R. R.	" "
2	" " at Long Beach	0.041	0.041	Pacific Electric Ry.	" "
2	" " Connection Track No. 4 at Bell	0.487	0.487	" "	" "
2	" " Connection Track No. 3 at Hobart	0.487	0.487	A. T. & S. F. Ry.	" "
3	" " Track in Santa Fe Ave, Los Angeles	0.015	0.015	Pacific Electric Ry.	" "
3	" " Connection, Alhambra St., Los Angeles	0.056	0.056	Southern Pacific R. R.	" "
3	Track No. 14 at Humboldt Street, Los Angeles	0.148	0.148	P. & S. F. Ry.	" "
5	Transfer Track No. 1 at Broadway Street, Los Angeles	0.032	0.032	" "	" "
5	Track at Glendale	0.032	0.032	Glendale & Montrose Ry.	" "
6	Track from Station 3061 +41 to connection, at Riverside	0.045	0.045	Interurban Electric Ry.	" "
8	" " Track at Riverside	0.190	0.190	Tomball & Richmond R. R.	" "
8	" " Track at South Vanhook	0.144	0.144	" "	" "
8	Trucks in Los Vegas Yard	0.437	0.437	A. T. & S. F. Ry.	" "
10	Trucks in Los Vegas Yard	0.190	0.190	Princeton Consolidated	Monthly Rental.
13	East and west leg of yard at Pioche	0.139	0.139	Pioche Valley R. R.	Agreement No. 1616
17	Trucks Nos. 6, 8, 10, 12, 20 at Tooele	1.255	1.255	Utah Valley R. R.	" " 1100
17	Trucks Nos. 6, 8, 10, 12 at Tooele	0.283	0.283	" "	" "
18	Trucks Nos. 6, 8 and 12 at Provo	0.056	0.056	D. & R. G. R. R.	No Agreement.
18	Track No. 10 at American Fork	0.023	0.023	Salt Lake & Utah Ry.	" "
	Totals	0.190	9.232		

**STATEMENT OF TRACK MILEAGE
SAN PEDRO, LOS ANGELES & SALT LAKE RAILROAD CO.**

Note: There is no second track mileage on this carrier

5. Jointly Owned and Jointly Used

Valuation Section	Description	Main Trunk, Miles	Other Trunks, Miles	Total Miles	Other Carriers Interested	Per Cent Ownership	Remarks
Cal.	3 Track No. 229, part of Track No. 259 and Track No. 261, Los Angeles.....	1.670	0.066	1.670	Southern Pacific R. R. (now Southern P. R. R.)	50%	Agreement #732
"	3 Part of Track No. 259, Los Angeles.....	0.066	0.066	0.066	At S. F. R. R. (now Crescent City R. R.)	50%	Contract #1244
"	7 At Crestmore, Cal.....	0.257	0.407	0.664	Riverside, Rialto & Pacific R. R.	50%	1887 on file
Utah	17 At Garfield, Utah.....	0.777	0.777	1.554	Bingham & Garfield R. R.	50%	1509 " "
"	18 At Provo, Utah.....	0.048	0.048	0.096	Provo & Ogden R. R.	50%	" "
"	18 At Nephi, Utah.....	0.051	0.051	0.102	Salt Lake Valley Ry.	50%	" "
"	20 At Mammoth, Utah.....	0.827	1.444	2.271	Denver & Rio Grande R. R.	50%	" "
	Totals.....	1.084	5.063	6.147			

6. Leased from other Carriers.

Valuation Section	Description	Main Trunk, Miles	Other Trunks, Miles	Total Miles	Carrier Leased From	Abstract of Agreement
	Riverside Jet, to San Bernardino, Cal.....	9.82	5.57	15.39	Southern Pacific R. R.	{ Rental paid wheelage basis.
	Colton to Daggett.....	93.83	45.40	139.23	A. T. & S. F. Ry.	{ Rental paid wheelage basis.
	Salt Lake City, Utah.....	18.74	70.46	89.20	Oregon Short Line R. R.	{ Rental paid wheelage basis.
Utah	18 Provo, Utah—Track 12.....		0.02	0.02	Denver & Rio Grande R. R.	
	Totals.....	122.39	121.45	243.84		

7. Leased from other Parties—None.

DESCRIPTION OF COUNTRY TRAVERSED.

The topography varies from river and creek valleys to rough canons and mountain passes, the latter predominating. The soil is generally fertile and becomes very productive when the land can be irrigated. At the present time irrigation is only carried on extensively where products would be tributary to the carrier, between San Pedro and Riverside in western California, and between Salt Lake City and Lynndyl, in Utah.

The climate is variable. The temperature between Salt Lake City, Utah, and a point some 50 miles east of Los Angeles is moderate, ranging from zero to 100 degrees. On the coast, say from 50 miles east of Los Angeles to East San Pedro, the temperature ranges from 30 to 100 degrees.

The principal industries from which the carrier derives revenue are the mining of copper, zinc, silver and gold. In that portion of Utah south from Salt Lake City, developed by this carrier's lines, is a large irrigation district, where fruit raising and diversified farming are followed. Branch lines are generally to mining properties. Between Riverside, Cal. and the coast, carrier's lines pass through the famous southern California citrus, walnut and other orchards.

At East San Pedro there is a land-locked harbor, with an entrance and harbor depth of 30 feet at low water, and there are docks and wharves where the carrier makes connections with ocean steamship lines.

SERVICE OPERATED.

(a) Express Service.

The American Express Company operates over the lines of this carrier.

(b) Passenger Service.

Between Los Angeles and Riverside, Cal., the carrier operates seven daily trains each way, of which three are through to Salt Lake City; two of the latter are limited trains, carrying through sleepers to and from Chicago and other points. Between Los Angeles and Pasadena, Cal., there are six trains

each way daily; on the branches in Utah three trains each way daily, and on other branches from one and two trains each way daily.

The greater part of the passenger travel is through, although there is considerable local travel in the vicinity of Los Angeles and between Los Angeles and East San Pedro, as well as in the developed portion of Utah south of Salt Lake City.

(c) Freight Service.

The nature and extent of freight calls for more frequent service on that portion of the carrier's lines between Salt Lake City and Lynndyl, Utah. The necessity for frequent freight service decreases westward until, in California, only about half as many trains are operated as in Utah. This is an indication of the local development of the country tributary to the carrier's lines, the produce from the California developed country being of a nature to be handled by solid through trains. Of the freight tonnage originating on the road in the year ending June 30, 1915, over 50 per cent. was from the products of mines.

HISTORY OF PHYSICAL PROPERTY OWNED.

The San Pedro, Los Angeles & Salt Lake Railroad Company practically began existence as such in 1903, when in an agreement dated July 7, 1903, certain lines which were purchased from the Oregon Short Line Railway Company and other lines were merged to form the carrier.

(a) Description of Original Construction, etc.

The following table sets forth by valuation sections the dates of original construction and of initial operation of the various lines so purchased or merged, as well as lines constructed by the carrier, subsequent to 1903.

SAN PEDRO, LOS ANGELES & SALT LAKE RAILROAD COMPANY.

CONDENSED TABLE SHOWING CONSTRUCTION HISTORY.

Val. Sec.	Length in Miles	Limits		Constructed		Date of Initial Operation	Remarks
		From	To	Date	By Whom		
1 and 2	24.0	East San Pedro	Hobart	1891	Los Angeles Terminal Ry. Co.	1891	Reconstructed by the S. P., L. A. & S. L. R. R. Co. and operated by it in 1903.
3	9.7	Hobart	Glendale Junction	1897	Los Angeles & Glendale Ry. Co.	1898	
4	11.6	Glendale Junction	Altadena	1899	Los Angeles, Pasadena & Glendale Ry. Co.	1899-90	
5	7.1	Glendale	Verdugo Park	1889	" " " " " " " " " "	1889	
6	54.8	Los Angeles	Riverside	1901-03	San Pedro, Los Angeles & Salt Lake R. R. Co.	1904	Shoe flies were employed in the initial operation. Erie was the meeting point of construction from the east and the west.
7	8.3	{ Bly Quarry Spur Crestmore " }	California-Nevada State Line	1906	" " " " " " " " " "	1906	
				1912	" " " " " " " " " "	1912	
8	128.4	Daggett		1903-05	" " " " " " " " " "	1905	
9	21.6	California-Nevada State Line	Erie	1903-05	" " " " " " " " " "	1905	This section had been partially completed by the O. S. L. R. R. Co. and the Utah Northern Ry. Co.
	23.8	Erie	Las Vegas	1904	" " " " " " " " " "	1905	
10	125.8	Las Vegas	Caliente	1903-05	" " " " " " " " " "	1905	
11	21.6	Moapa	St. Thomas	1911-12	" " " " " " " " " "	1912	
12	41.8	Caliente	Nevada-Utah State Line	1901	" " " " " " " " " "	1901	
13	32.4	Caliente	Pioche	1899-92	Oregon Short Line R. R. Co.—Utah Northern Ry. Co.	1901	
14	75.7	Nevada-Utah State Line	Milford	1898-99	Utah & Pacific R. R. Co.	1901	
15	17.4	Milford	Frisco	1880	Utah Southern R. R. Co.	1880	
	5.6	Frisco	Newhouse	1904	San Pedro, Los Angeles & Salt Lake R. R. Co.	1904	
16	88.6	Milford	Lyndyl	1879-80	Utah Southern R. R. Co.	1880	
17	116.8	Lyndyl	Salt Lake City	1902-03	Oregon Short Line R. R. Co.	1903	
18	120.7	{ Lyndyl York Lehi Sandy }	Lehi	1879	Utah Southern R. R. Co.	1882	
				1875	" " " " " " " " " "		
19	53.5	Lehi Junction	Tintie	1871-72	" " " " " " " " " "	1882	
		Ironton	Silver City	1881-82	Salt Lake & Western Ry. Co.		
20	12.3	Silver City Junction	Eureka	1882	" " " " " " " " " "	1882	
		Silver City	Northern Spy Mine	1880	" " " " " " " " " "	1880	
		Mammoth Junction	Mammoth	1891-92	Oregon Short Line R. R. Co.—Utah Northern Ry. Co.	1892	
		Mammoth	Mammoth Mine	1893	" " " " " " " " " "	1893	
				1896-97	New East Tintie Ry. Co.	1897	

(b) Reconstruction and Betterments.

Numerous short sections of the road as purchased or merged, when built were narrow gauge. These were mostly changed to broad gauge before being acquired by the carrier.

In 1903 and 1904 the carrier did much work in connection with reconstructing and standardizing certain tracks in Utah which had been purchased from the Oregon Short Line Railroad Company. The same is true of other portions of the line as set forth in the preceding table.

In 1906 serious floods in the Clover and Meadow Valleys, Nevada, caused extensive washouts. Again, in 1907, still more serious washouts occurred in the same territory, causing a three months' suspension of traffic. A third serious washout occurred in the same territory in January, 1910, which practically wiped out some 78 miles of the roadbed. This portion of the line was revised by the carrier and rebuilt in 1910-1912 by the construction of a high line some 72 miles long east and west of Caliente. The carrier also did much repair work in the years 1906 and 1907 in connection with the washouts of those years, referred to above.

The carrier's figures of cost covering these repairs and the construction of the new line exceeds six million dollars.

**CONSTRUCTION PROGRAM FOR PRESENT REPRODUCTION
OF PHYSICAL PROPERTY.**

(a) Division of Carrier's Lines into Valuation Sections.

For the purpose of convenient field inventory, and in order that the carrier's physical property might, so far as possible, be collected and summarized by desirable and comparable units of territory, the carrier's lines were divided into valuation sections, as set forth in the table shown on page 12 of this text under "History of Physical Property Owned."

In the determination of these valuation sections consideration was given to divisions by State lines, to operating divisions of the carrier, to the question of sections of the road which were built or would be reproduced under conditions which did or would exist, as well as to the fact that carrier's records of construction, etc., were more readily available for comparison within defined limits of line.

(b) Location of Construction Offices.

For the purposes of reconstruction, the office of the chief engineer is assumed to be at Los Angeles, Cal.; that of the assistant chief engineer at Salt Lake City, Utah. Assistant engineers would be located at such points along the line as the requirements of the work might indicate or make desirable.

It is assumed that under the direction of the chief engineer all necessary surveys have been made and that all necessary rights of way have been secured in advance of the construction period.

(c) Local Distribution Methods.

For the economic handling of the construction work material yards will be established as follows:

Los Angeles, Cal.....	Material from these yards to be used in track-laying and other construction work between San Pedro, Cal., and Caliente, Nevada, Main Line and Branches.
Daggett, Cal.....	
Las Vegas, Nevada.....	
Caliente, Nevada.....	Material from these yards to be used in track-laying and other construction work between Salt Lake City, Utah, and Caliente, Nevada, Main Line and Branches.
Milford, Utah.....	
Lynndyl, Utah.....	
Provo, Utah.....	
Salt Lake City, Utah.....	

The following railway and terminal connections will be available and utilized:

At San Pedro, Cal.....	{ Ocean transportation and inter-urban service.
At Los Angeles, Cal.....	
At Riverside, Cal.....	{ Southern Pacific; Atchison, Topeka & Santa Fe and inter-urban.
At Daggett, Cal.....	
At Crucero, Cal.....	{ Southern Pacific.
At Leastalk, Cal.....	
At Las Vegas, Nevada.....	{ Atchison, Topeka & Santa Fe.
At Provo, Utah.....	
At Garfield, Utah.....	{ Tonopah & Tidewater.
At Salt Lake City, Utah.....	
	{ Branch of Atchison, Topeka & Santa Fe.
	{ Las Vegas & Tonopah.
	{ Denver & Rio Grande.
	{ Western Pacific.
	{ Western Pacific; Oregon Short Line; Denver & Rio Grande.

At material yards, certain materials, such as ties, rail, piling, bridge and building material, will, when necessary, be unloaded, yarded and forwarded to the front as required. Other local supply points will be utilized for the delivery and local distribution of such applicable construction materials and supplies as the construction periods necessitate.

All railway and water connections will be utilized for delivery of certain construction materials at commercial rates. Construction materials and supplies hauled over carrier's lines are figured at company rates of one-half cent per ton mile; except for materials used east of Daggett and brought from points west of Riverside, in which case commercial rates are applied to Daggett.

(d) Construction Methods.

1. Grading: Grading and all other construction work, unless otherwise stated, will be done by contract.

Although over 60 per cent. of the carrier's lines were graded on a pay-both-ways basis, for reproduction new the grading has been figured on a pay-one-way or haul basis.

Railroad crossings are inventoried to this carrier in accordance with its proportional paid for ownership. In the case of highway and similar crossings the carrier is credited with its proportion of cost as indicated by expense incurred.

In connection with tunnel work, outfits, men and materials for the Afton, Cal., tunnel, will be brought in over the Tonopah & Tidewater Railroad to Crucero, and for all other tunnels over the Las Vegas & Tonopah Railroad to Las Vegas, and over the carrier's rails as laid, from Las Vegas east.

2. Bridge and Culvert Work: Materials for bridges, trestles and culverts will be team-hauled ahead of track; for pipe and small culvert work an average distance of 15 miles; for piling and material for trestle bridges a maximum haul of 20 miles. Permanent bridges, other than pile or frame trestles, will be built after track is carried over openings on temporary structures.

3. Ballast: This material will be of the same class and obtained from the same source of supply as used by the carrier on original construction. Ballast material for main-line track

is nearly all gravel, exceptions being 21 miles of Valuation Section 6, ballasted with disintegrated granite, and some 25 miles of Valuation Section 12, with crushed rock.

The location of ballast pits and the valuation sections ballasted therefrom are shown in the following table:

Valuation Sections

1, 2, 3, 5 and 6	Arroyo Seco Pit.
8	Pits located at miles 192, 194, 196, 242 and 269.
9	Pits at Ames, Lyons, Afton, Leastalk, Canyon and Pierce.
10	Pits at Pierce, Hoya, Lieth and Carp.
12	" " Etna and Minto.
13	" " mile post 455.
14	" " " " 604.
16	" " " " 602 and 744.
18	" " " " 744.
20	" " Stockton.

4. Track-laying and Surfacing: This work also will be done by contract and the unit cost covers all elements thereof, including the laying and removal of temporary tracks, and the maintenance of all permanent tracks, until the section of road is completed and turned over for operation. Track-laying will follow the grading, the work proceeding as indicated by the following table:

Material Yard Location	Lay Track From	To
Los Angeles, Cal.....	Los Angeles, Cal.....	San Pedro, Cal.
" " " " " " " "	" " " " " " " "	Riverside Jct., Cal.
" " " " " " " "	" " " " " " " "	Glendale, Cal.
" " " " " " " "	Glendale Jct., " " "	Pasadena, Cal.
" " " " " " " "	Pedley, " " "	{ Bly Quarry and Crest-
Daggett, " " " "	" " " " " " " "	more, Cal.
Las Vegas, Nevada.....	Daggett, " " "	Las Vegas, Nevada.
" " " " " " " "	Moapa, Nevada.....	St. Thomas, " "
" " " " " " " "	Las Vegas, " " "	Caliente, " "
Caliente, " " " "	Caliente, " " "	Pioche, " "
Provo, Utah.....	Provo, Utah.....	Lyndyl, Utah.
Lehi Jct., " " " "	Lehi Jct., " " "	Boulter, " "
Provo, " " " "	Provo, " " "	Sandy, " "
Milford, " " " "	Milford, " " "	Newhouse, " "
" " " " " " " "	" " " " " " " "	Caliente, Nevada.
Lyndyl, " " " "	Lyndyl, " " "	Milford, Utah.
Salt Lake City, Utah.....	Tintic, " " "	{ Eureka, Mammoth and
" " " " " " " "	Salt Lake City, Utah.	Silver City, Utah.
" " " " " " " "	" " " " " " " "	Lyndyl, Utah.

5. Fencing:—Right-of-way fences will be built by contract after track is laid, material for the lines between San Pedro and Riverside being received at Los Angeles, between Daggett and Caliente at Daggett, and between Caliente and Salt Lake City at Salt Lake City.

6. Crossings and Signs:—The material for crossings and signs will be delivered at the nearest material yard, and all work done by contract after track is laid.

7. Station, Office and Roadway Buildings:—All important buildings will be built by contract, and various small buildings of standard types by company labor.

8. Water stations, fuel stations, shops and engine-houses will be handled as indicated for station, office and roadway buildings.

9. Wharves and docks, will be constructed by contract and during the period of construction of the San Pedro to Los Angeles Branch, so that they may be available for use for the receipt of material by water routes.

10. Telegraph and telephone line material will be delivered at the most convenient material yard, and the lines will be constructed by direct employment and planned to follow closely the progress of track-laying.

11. Signals and interlockers will be installed after track is laid, generally by company forces.

(e) Period and Order of Construction.

A four-year period from June 30, 1910, to June 30, 1914, is assumed for construction, on the basis that the carrier's physical property would be practically reproduced as of the date of valuation, namely, June 30, 1914. The following table sets forth the period and order of construction for the valuation sections as shown:

Valuation Section	Work Begun	Work Completed	Remarks
1, 2, 3, 4, 5, 6 and 7	June 30, 1910.....	June 30, 1912.	
18, 8, 9 and part of 10.....	" 30, 1910.....	" 30, 1912....	{ (#10 Las Vegas to Crystal.)
16 and part of 10.....	" 30, 1912.....	" 30, 1913....	{ (#10 Crystal to Leith.)
12, 14 and part of 10.....	" 30, 1912.....	" 30, 1914....	{ (#10 Leith to Caliente.)
17, 19, 20 and 21.....	January 1, 1913.....	" 30, 1914....	
11, 13, 15.....	June 30, 1913.....	" 30, 1914....	

(f) Labor Markets Available.

For the work between East San Pedro and Las Vegas labor will be chiefly available via San Pedro and Los Angeles from the Pacific Coast cities; of the work from Las Vegas to Salt Lake City, about 25 per cent. of the necessary work can be done by Mormon labor obtained locally in Utah; the balance may be brought from eastern, northern or southern labor centers over such lines as the Tonopah & Tidewater, Las Vegas & Tonopah, Denver & Rio Grande, Santa Fe & Southern Pacific.

STATEMENT OF METHODS FOLLOWED.

(a) Roadway Branch.

The roadway and track branch began field inventory work February 2, 1914, and completed the same August 20, 1914.

Except for the first two months, there were four roadway parties engaged on this work. The parties were quartered in outfit cars and moved from station to station as the work progressed. The personnel of each roadway party consisted of the following, viz :

- 1 Assistant Field Engineer,
- 1 Recorder,
- 1 Instrumentman,
- 1 Computer,
- 1 Rodman,
- 2 Chainmen,
- 1 Tapeman,
- 1 Laborer,
- 1 Cook.

The work was performed under the instructions set forth in the first tentative draft of instructions to the roadway and track department.

The chaining group measured the length of the main line; measuring and recording such inventory features as small bridges and culverts, track materials, fences, crossing signs, etc.

The cross-section group measured and recorded the grading, ballast and tunnels. Grading measurements were generally made using the hand level with tape, chain and level rods. The level was used occasionally in yard work, and the transit in heavy work. Except in rare instances cross-sections were not taken at greater intervals than 100 feet apart, and often at much more frequent intervals, as the roughness of the work called for. Carrier's quantities were occasionally adopted, when field measurements indicated that same were reliable. A representative of the carrier accompanied each field party to act as pilot.

Most of the computation work and all of the checking for the determination of grading and ballast quantities was done by the computing force in the district office, the average end area method being used. About six per cent. of the computing work was done in the field. At first, all cross-sections were platted; later only those of complicated nature. Tables and diagrams were used in the field, and computing machines in the district office. The planimeter was used to determine areas of platted sections. Checking was made more reliable by carrying succeeding operations in a different order from that used in the original computation work.

Overhaul was computed by mass diagram, the free haul being 500 feet and maximum team haul 2000 feet. The train haul unit used was cubic yards a mile, the maximum haul being 12 miles, and the price used was graded from three cents for the first mile, to four cents for the second mile, and then at a rate of one-half cent per mile for each additional mile. Allowances for swell and shrinkage were used in computing overhaul.

The following percentages were used:

Swell on Material.

If solid rock is	0—	25%	of total cut	swell	S. R.	10%
" " "	26—	50%	" " "	" " "	"	15%
" " "	51—	75%	" " "	" " "	"	20%
" " "	76—	100%	" " "	" " "	"	25%

Shrinkage on Materials.

If fill is	100%	earth or loose rock	add	8%
" " "	76—100%	" " " "	"	6%
" " "	51—75%	" " " "	"	4%
" " "	26—50%	" " " "	"	2%
" " "	0—25%	" " " "	"	0%

Clearing and grubbing was inventoried, computed and allowed on the basis of what was required at the time of construction. This was a small item of expense, and practically what would be required in that line at the date of valuation.

The carrier made no claim for subsidence; therefore no evidence or record was noted by field men and no allowance has been made.

(b) Structural Branch.

The structural inventory was made by one field party, consisting of one senior structural engineer and one junior mechanical engineer. In the vicinity of Los Angeles hand speeders were used to transport the party, and from Daggett, Cal., east, a gasoline motor car was used, the carrier furnishing a man to operate the car in addition to the pilot. When the carrier furnished reliable plans of bridges or buildings, only such measurements were taken as were necessary to establish the substantial accuracy of the information furnished, otherwise detailed measurements and records were made.

For the determination of cost of reproduction new of building structures, a bill of material has been used as a basis for obtaining quantities and values, and the field inventory methods were made to conform thereto. The bill-of-material method was also used in connection with bridge work.

(c) Mechanical Branch.

The shop inspection party consisted of one senior mechanical engineer and one junior mechanical engineer. Locomotive inspection was made by a senior inspector of motive power, and the car inspection by the senior inspector of car equipment.

Representatives of the carrier accompanied each of these parties, except the locomotive inspection. This branch was furnished a copy of the carrier's 1912 valuation report to the Railroad Commission of California, covering property in that State. All prices had been eliminated from this report. No preliminary list of mechanical property outside the State of California was furnished. This occasioned a great amount of detail measurement and sketching in connection with the inventory of shop machinery and tools.

The carrier furnished no preliminary information such as is now in effect with all carriers, and it has not as yet complied with Valuation Order No. 8, and no proper form of register of property classified under Account 37 has as yet been furnished. Some field pricing of patterns was done, but no field estimates of cost of home-made tools and devices or of installation costs were made. For the above reasons it was necessary to make very close and often greatly detailed inspections in all lines of work. It is, however, believed, owing to the care and detail with which the inventory of mechanical account properties was made, that in the compilation of the report no material property of these classes has been omitted.

All locomotives were inspected, as well as all passenger cars, work equipment, etc. Not less than 10 per cent. of the freight-train cars were inspected. All property under Accounts 31, 32, 33, 44 and 45 was carefully inventoried.

(d) Telegraph and Telephone Branch.

The telegraph field party consisted of one telegraph inspector, accompanied by a representative of the Western Union Telegraph Company, acting as pilot. The carrier had no representative with the party, except for a short distance in Nevada. The telegraph party was transported on a motor car and the inventory and records were made in accordance with the first tentative draft of instructions to telegraph field parties.

The customary bill-of-material and company-force-work method was adopted for the determination of cost-of-reproduction-new and the field methods of inventory conformed thereto.

(e) Signal Branch.

The signal party, consisting of one signal engineer, accompanied by the carrier's pilot, inventoried all signal property during the month of January, 1915. Only a small amount of automatic signal equipment was found; this class of property consisting chiefly of interlockers. The field work was carried out in accordance with the "Special Instructions to Signal Field Parties," dated November 28, 1914. The inventory of tower buildings was made by the structural party; and train order signals, crossing bells and crossing gates were inventoried by the roadway parties. All signal property chargeable to Account 27, Signals and Interlockers, were collected, assembled and priced by the signal engineer under the direction of the senior structural engineer.

STATEMENT OF METHODS AND PRINCIPLES FOLLOWED
IN COMPUTING DEPRECIATION.

The instructions relating to recording condition of property, as set forth in the various tentative drafts of instructions to field parties, were observed. The chiefs of field parties in consultation with such of their superiors as were familiar with field conditions, would enter (with reference to the various established units of property) in the notes, their opinion of condition after consideration of age, service life, etc. Notes were made of evidences of deterioration and of information obtained from the carrier relating to age, etc.

The final condition-per-cent. figures as applied to the determined cost-of-reproduction-new, were based upon the condition opinion notes as returned by field men, after certain modifications had been made at the district office conferences, where was utilized the broader judgment, more extended experience and wider knowledge of the higher officials of the district organization. Much data on the subject which had been collected by the district office from carriers and other sources was available for consideration and was utilized.

The assembly sheets show in detail the service condition per cent. given to each item and account as set forth.

ABANDONED PROPERTY.

The abandoned property of this carrier was handled in the field and office in accordance with instructions contained in the first tentative draft of instructions for roadway and track field parties. The district office is not advised if the carrier has filed any report in compliance with Valuation Order No. 10. In view of this fact, and for the reason that no comparison could be made with carrier's claims or statements, this explanatory text contains no statement of abandoned property. However, the field notes contain full data on all abandoned property to which attention was called in the field by the carrier.

ADDITIONS AND BETTERMENTS.

From the carrier's report for the fiscal year ending June 30, 1914, covering additions and betterments and property retired, and from other reports and returns from the carrier, were taken quantities covering work done by the carrier during the period elapsed between the dates of field inventory and the date of valuation. These quantities were applied additively or subtractively to the field-determined quantities and the regular unit prices applied to the final quantities.

The following three pages, Tables 1, 2 and 3, show the credits given the carrier for addition and betterment work completed as of June 30, 1914, and not covered by field inventory:

TABLE 1.

**SAN PEDRO, LOS ANGELES & SALT LAKE RAILROAD.
DETAILED STATEMENT SHOWING ADDITIONS AND BETTERMENTS.**

Credited to Carrier and included in Cost of Reproduction New in Report
of Value of June 1, 1916

The Carrier filed 16 Sheets Covering Addition and Betterment Work done
During Period of Inventory as follows:

Sheet Covering Carrier's	Location and Description of Work	Expense Incurred	Disposition
Authority #1347.	Standard Brick Spur Los Angeles, Cal.	\$794.66	This work, done after date of inventory, was 21% complete on date of valuation, so 21% of quantities were added to inventory. 21% of carrier's cost.....\$166.88 21% of quantities with I. C. C. prices.....220.09 I. C. C. excess.....53.12
Authority #1437.	Store House Spur #307	723.30	This work, done after date of inventory, was 100% complete on date of valuation, so all quantities were added to inventory. Quantities with I. C. C. prices.....\$1165.34 I. C. C. excess.....442.04
Authority #1336.	Pave and improve Bellevue and Orange Grove Avenues, Pasadena.	275.74	Work done subsequent to date of inventory but prior to date of valuation. Quantities added to inventory. Quantities with I. C. C. prices.....\$156.60 Carrier's excess.....119.14
Authority #1351.	Interchange Track Glendale and Mont- rose R. R.	248.99	This work, done after date of inventory, was 100% complete on date of valuation. Quantities were added to inventory. Quantities with I. C. C. prices.....\$314.00 I. C. C. excess.....65.01

TABLE 2.

**SAN PEDRO, LOS ANGELES & SALT LAKE RAILROAD.
DETAILED STATEMENT SHOWING ADDITIONS AND BETTERMENTS.**

Sheet Covering Carrier's	Location and Description of Work	Expense Incurred	Disposition
Authority #1350.	Spur for A. W. Handorf, Hellman, Cal.	\$943.17	This work, done after date of inventory, was 97% complete on date of valuation, so 97% of quantities were added to inventory. 97% of carrier's cost.....\$914.88 97% of quantities with I. C. C. prices.....966.88 I. C. C. excess.....52.00
Authority #1344.	Build fence from Utah-Nevada State line to Bridge 502B.	654.37	This work, done after date of inventory, was 75% complete on date of valuation, so 75% of quantities were added to inventory. 75% of carrier's cost.....\$490.78 75% of quantities with I. C. C. prices.....415.82 Carrier's excess.....74.96
Authority #1344.	Build fence from Caliente to State Line.	5820.99	This work was 52% complete on date of valuation and practically complete on date of inventory. Deduction was made from inventory to make fence on valuation section equal to amount completed on date of valuation. Carrier's value of work done after date of valuation.....\$2798.24 Value of deducted fence I. C. C. prices.....2236.26 Carrier's excess.....561.98
Authority #1343.	Relay with 90# steel from M. P. 775.04 to M. P. 725.00.	Not reported.	This work was commenced after date of valuation but before the date of inventory, so that the inventory, as taken, shows 33,007 feet of main track and several side track leads as 90# which were 75# track on date of valuation. Changes were made in the inventory to show this as 75# track. Decrease in value due to these changes, using I. C. C. prices, \$8555.24.

TABLE 3.

**SAN PEDRO, LOS ANGELES & SALT LAKE RAILROAD.
DETAILED STATEMENT SHOWING ADDITIONS AND BETTERMENTS.**

Sheet Covering Carrier's	Location and Description of Work	Expense Incurred	Disposition
Authority #1379.	Concrete blanket protection at Canawash near Stine, Nev.	\$2872.60	This work, begun after date of inventory, was 60% complete on date of valuation; 60% of quantities were added to inventory. 60% of carrier's cost.....\$1723.56 60% of quantities with L. C. C. prices..... 1675.41 Carrier's excess..... 48.15
Authority #1380.	Additional filing facilities in Auditor's office, Pacific Electric Bldg., Los Angeles.	292.87	This work was started before the date of valuation and completed before the date of inventory. It is included in inventory. No changes were made in inventory.
Authority #1460.	Pave Lenard St. crossing, Los Angeles.		This is not included in the inventory, as we were unable to determine whether cost given was total cost of work or carrier's percentage. No quantities were given.
Authority #1393. (2 sheets)	Widening cuts and fills, Val. Sec. 18.	7221.51	Date of inventory was so near date of valuation that inventory was accepted as correct.
Authority #1271 } #1420 }	Change of grade, Parley, Utah.	32,849.16	Same as Authority #1393.
Authority #1346.	Ballasting between Lynndyl and Juab, Utah.	39,173.71	Same as Authority #1393.
Authority #1365.	Spur for Knight Investment Co. near Boulder.	661.28	This work was done after date of valuation and before date of inventory, but was not inventoried by field party. No changes made in inventory.

DETERMINATION OF UNIT PRICES.

The prices applied to property referred to in this report have been secured and prepared entirely by the Pacific District. The fullest consideration was given, not only to the prices which were actually paid for construction and property by this carrier, but also to those paid by all other carriers in its vicinity where the information was obtainable.

A large amount of cost-data information was actually obtained by the Accounting Section from other carriers and furnished the Engineering Section, but perhaps the most valuable information available was the cost-data file of the California Railroad Commission, which was tendered and accepted.

In preparing final prices, the experience of the staff engineers and other engineers of the Engineering Section was utilized and also full cognizance was taken of the local physical and climatic conditions which pertain to each section of the carrier.

In preparing unit prices those commercial freight rates in effect on the date of valuation were used when determining transportation costs. Wages for labor and cost of materials used generally represent the average prices which were found to obtain in the same territory during the period of from five to ten years preceding the date of valuation. The unit prices used, unless otherwise stated, include all such features of cost as transportation of men, teams, outfits and supplies, building of necessary roads, use of equipment of any kind, contractors' profits, and all other usual elements of cost.

ALLOWANCES FOR OVERHEAD EXPENSES.**(a) Account 1. Engineering.**

Account 1—Engineering, is estimated at 4.83 per cent. of undepreciated amounts following Accounts 3 to 47, inclusive, except Accounts 39, 40, 41 and 42.

(b) Account 71. Organization Expenses.

Account 71—Organization Expenses, is estimated at 0.3 per cent., Accounts 1 to 58, inclusive.

Owing to errors in the copy of the Government Report on the San Pedro, Los Angeles & Salt Lake Railroad, originally received, please insert Account "26" in the last line of paragraph (e) on page 29, and on the same page, add to the end of paragraph (b) the words "except Account 26." Also please substitute this reprint of page 30 in the Engineering Report of the San Pedro, Los Angeles & Salt Lake Railroad, in the copy sent you on July 25, 1916.

PHILADELPHIA, September 9, 1916.

THOMAS W. HULME,
General Secretary.

(c) **Account 72. General Officers and Clerks.**

Account 72—General Officers and Clerks, is estimated at one per cent., Accounts 1 to 58, inclusive, except Account 26.

(d) **Account 73. Law.**

Account 73—Law, is estimated at .25 per cent., Accounts 1 to 58, inclusive, except Account 26.

(e) **Account 74. Stationery and Printing.**

Account 74—Stationery and Printing, is estimated at .03 per cent., Accounts 1 to 58, inclusive, except Account 26.

(f) **Account 75. Taxes.**

Account 75—Taxes, is estimated at .5 per cent., Accounts 1 to 47, inclusive, except Account 26.

(g) **Account 76. Interest During Construction.**

Account 76—Interest During Construction, is estimated on the basis of six per cent. per annum, Accounts 1 to 47, inclusive, except Account 26, during one-half of the construction period for each valuation section; and Accounts 71 to 75, inclusive, for two years. Also, interest is estimated at three per cent. (six per cent. for six months) on all equipment under Accounts 51 to 58, inclusive.

Interest at six per cent. for one year was estimated on Valuation Sections 1 to 7, inclusive, 11 to 15, inclusive, 17, 19, 20 and 21.

Interest at six per cent. for two years was estimated for Valuation Sections 10 and 16.

Interest at six per cent. for three years was estimated for Valuation Sections 8, 9 and 18, and at six per cent. for two years on \$8150, the value of Accounts 1 and 16 for furniture and fixtures in ticket offices off the line.

For Account 26, allowances for Account 1 and for Accounts 71 to 76, inclusive, were made at the above-indicated percentages and included in the totals of States and in the grand total for that account, for the reason that the ownership of the telegraph lines was vested 50 per cent. in the carrier and 50 per cent. in the Western Union Telegraph Company, and the inventory having been summarized under the telegraph classification, the railroad's proportion chargeable to the totals for Account 26 was carried in dollars as a lump sum to railroad summary sheets.

(c) **Account 72. General Officers and Clerks.**

Account 72—General Officers and Clerks, is estimated at one per cent., Accounts 1 to 58, inclusive.

(d) **Account 73. Law.**

Account 73—Law, is estimated at ^{0.25}.025 per cent., Accounts 1 to 58, inclusive.

(e) **Account 74. Stationery and Printing.**

Account 74—Stationery and Printing, is estimated at .03 per cent., Accounts 1 to 58, inclusive.

(f) **Account 75. Taxes.**

Account 75—Taxes, is estimated at ^{0.5}.05 per cent., Accounts 1 to 58, inclusive.

(g) **Account 76. Interest During Construction.**

Account 76—Interest During Construction, is estimated on the basis of six per cent. per annum, Accounts 1 to 47, inclusive, and 71 to 75, inclusive, during one-half of the construction period for each valuation section. Also, interest is estimated at three per cent. (six per cent. for six months) on all equipment under Accounts 51 to 58, inclusive.

Interest at six per cent. for one year was estimated on Valuation Sections 1 to 7, inclusive, 11 to 15, inclusive, 17, 19, 20 and 21.

Interest at six per cent. for two years was estimated for Valuation Sections 10 and 16.

Interest at five per cent. for three years was estimated for Valuation Sections 8, 9 and 18.

MSH 21465

**END OF
TITLE**